WHAT IS CLAIMED IS:

Sub A' ~~1.~~ A method for maintaining a traffic service level for data communicated by a computer network having a source, the computer network coupled to at least one of a plurality of networks, each of the networks includes a plurality of paths for transporting the data communicated to a destination, where at least two of the networks are electrically coupled at an interconnection point and where the data communicated flows through the interconnection point, the method comprising:

monitoring the traffic service level associated with one of the plurality of paths between the source and the destination;

determining whether the traffic service level associated with the one of the plurality of paths meet one or more performance metrics;

indicating a service level violation when a flow of data communicated over the monitored path between the source and the destination fails at least one of the performance metrics; and

selecting an alternate path from the other of the plurality of paths between the source and the destination,

wherein the alternate path provides for a traffic service level that resolves the service level violation from the source to the destination.

2. The method of claim 1, wherein selecting the alternate path further comprises:

monitoring the traffic service level associated with the other of the plurality of paths between the source and the destination;

determining a subset of alternative paths that meet the one or more performance metrics, where the subset of alternative paths are configured to transport data between the source and the destination;

choosing an optimized path between the source and the destination using a set of statistical data from the subset of alternative paths; and

applying the optimized path,

wherein the optimized path resolves service level violations associated with the path from the destination to the source.

3 The method of claim 2, wherein choosing the optimized path comprises:

storing the monitored flows of data communicated over each of the plurality of paths as statistical data; and

retrieving the statistical data.

4. The method of claim 1, further comprising routing the flow of data from the monitored path that fails at least one of the performance metrics path to the alternate path.

5. The method of claim 4, wherein routing the flow of data includes changing one or more source addresses in a routing table to include the optimized path from the destination to the source.

6. The method of claim 1, further comprising storing the monitored flows of data communicated over each of the plurality of paths as statistical data.

7. The method of claim 2, wherein the optimized path is applied to a routing table available to the network.

8. The method of claim 3, wherein the optimized path is an egress path.

9. The method of claim 1, wherein the one of the plurality of paths is a default route path.

10. The method of claim 2, wherein determining the subset of alternative paths comprises:

transmitting one or more probes over at least one of a plurality of networks from the source to the destination; and

receiving one or more probes returning from the destination, wherein each returning probe includes alternative path information which is used to determine the alternate path.

11. The method of claim 10, wherein at least one probe includes information about the network latency of each of the plurality of paths from the source to the destination.

12. The method of claim 10, wherein at least one probe includes information about the network loss of each of the plurality of paths from the source to the destination.

13. The method of claim 10, where in at least one probe includes information about network jitter of each of the plurality of paths from the source to the destination.

14. The method of claim 1, wherein monitoring the traffic service level associated with each of the plurality of paths between the source and the destination further comprises:

determining whether the flow of data is a specific traffic type;

and

classifying the flow of data as the specific traffic type,

wherein the specific traffic type is used in routing the flow of data.

15. A method for passively analyzing data flow to maintain a traffic service level for data communicated by a computer network having a source, the computer network coupled to at least one of a plurality of networks, each of the networks includes a plurality of paths for transporting the data communicated to a destination, where at least two of the networks are electrically coupled at an interconnection point and where the of data communicated flows through the interconnection point, the method comprising:

capturing one or more data packets flowing from a source address to a destination address;

parsing the one or more data packets to retrieve packet information;

combining the packet information from the one or more data packets into one or more traffic flows;

interpreting a service level for each of the one or more traffic flows from the packet information of the one or more captured data packets;

correlating a traffic flow characteristic with the interpreted service level for each of the one or more traffic flows;

grouping the traffic flow characteristic with an associated destination; and

forming an aggregate service level from two or more traffic flow characteristics with the associated destinations,

wherein the aggregate service level for the associated destinations is used to determine an alternate path from the source addresses to the destination addresses.

16. The method of claim 15, wherein capturing the one or more data packets further comprises:

filtering data packets according to a filtering criterion; and

removing the one or more packets up from the network.

17. The method of claim 15, wherein the packet information includes a source address and a destination address.

18. The method of claim 15, further comprising:

receiving the grouped traffic flow characteristics for the associated destination;

receiving a service level metric;

interpreting whether the service level metric is violated;

and

upon such a violation,

providing feedback for use in resolving such a violation.

19. A system for maintaining a traffic service level of a traffic flow in which the traffic flows to and flows from a computer network having a source, the computer network coupled to at least one of a plurality of networks, each of the networks includes a plurality of paths for transporting the traffic to a destination, where at least two of the networks are electrically coupled at an interconnection point and where the traffic flows through the interconnection point, the system comprising:

a passive flow analyzer configured to receive the traffic flow;

a calibrator configured to actively probe one or more alternative paths to the destination to determine a subset of alternative paths;

a traffic flow repository coupled between the passive flow analyzer and the calibrator to store information regarding the alternative paths and the traffic flow;

a controller coupled between the passive flow analyzer and the calibrator;

an optimizer coupled to the traffic flow repository to determine optimized ingress paths;

a modulator coupled between the optimizer and the controller to generate a modified routing table; and

a router to route the traffic flow according to the modified routing table, wherein the modified routing table includes a changed source address where the changed source address is associated with an optimized ingress path from the destination and an alternate path to the destination.

20. A system for maintaining a traffic service level over at least two of the networks electrically coupled at an interconnection point, where traffic flows through the interconnection point, by changing default routing tables of a plurality of regional networks, where a first regional network includes a first region router coupled to a first region route server, and a second regional network includes a second region router coupled to a second region route server, the system comprising:

a first region passive flow analyzer configured to receive the traffic flow from the first region;

a second region passive flow analyzer configured to receive the traffic flow from the second region;

a first region calibrator configured to actively probe one or more alternative paths to the destination to determine a first subset of alternative paths;

a second region calibrator configured to actively probe one or more alternative paths to the destination to determine a second subset of alternative paths;

a central traffic flow repository coupled between the first region passive flow analyzer, the second region passive flow analyzer, the first region calibrator and the second calibrator to store information regarding the first subset and the second subset of alternative paths and the first region and the second region traffic flow; and

a central route server coupled between the central traffic flow repository and the first region route server and the second region route server to receive a first region routing table and a second region routing table, respectively,

wherein, the central route server provides the first route server with a first modified routing table and provides the second route server with a second modified routing table.

21. The system of claim 20, wherein the central route server is coupled to a second central route server.

22. The system of claim 20, wherein the central route server is coupled to a parent central route server, wherein the parent central route server is further coupled to one or more central router servers where each of the one or more central router servers are associated with one or more regions.

23. The system of claim 22, wherein the parent central route server provides the first central route server with a first central modified routing table and provides the one or more central route servers with one or more central modified routing tables.

24. The system of claim 20, further comprising

a first region traffic flow repository coupled to the first region passive flow analyzer to store information regarding the alternative paths and the traffic flow of the first region; and

a second region traffic flow repository coupled to the second region passive flow analyzer to store information regarding the alternative paths and the traffic flow of the second region.

25. A system for maintaining a traffic service level over at least two of the networks electrically coupled at an interconnection point, where traffic flows through the interconnection point, by changing default routing tables of a plurality of regional networks, where a first regional network includes a first region router coupled to a first region route server, and a second regional network includes a second region router coupled to a second region route server, the system comprising:

a first region passive flow analyzer configured to receive the traffic flow from the first region;

a second region passive flow analyzer configured to receive the traffic flow from the second region;

a first region calibrator configured to actively probe one or more alternative paths to the destination to determine a first subset of alternative paths;

a second region calibrator configured to actively probe one or more alternative paths to the destination to determine a second subset of alternative paths;

a first region calibrator repository coupled to the first calibrator to store information regarding the alternative of the first region;

a second region calibrator repository coupled to the second calibrator to store information regarding the alternative of the second region;

a first region controller coupled between the first region calibrator repository and the first region passive flow analyzer, the first region controller further coupled to the first region route server to advertise a first region metric to other regions; and

a second region controller coupled between the second region calibrator repository and the second region passive flow analyzer, the second region controller further coupled to the second region route server to advertise a second region metric to other regions,

wherein the first region route server and the second region route server are coupled to resolve a service level violation from either region.

26. A computer product of the type comprising a computer readable medium that contains one or more executable instructions to maintain a traffic service level for data communicated by a computer network having a source, the computer network coupled to at least one of a plurality of networks, each of the networks includes a plurality of paths for transporting the data communicated to a destination, where at least two of the networks are electrically coupled at an interconnection point and where the data communicated flows through the interconnection point, wherein the computer readable medium maintains the traffic service level by executing the instructions on a computer system, wherein the computer system maintaining the traffic service level includes a processor coupled to a memory, wherein the processor is further coupled to the computer network, the computer product comprising

computer code to monitor the traffic service level associated with one of the plurality of paths between the source and the destination;

computer code to determine whether the traffic service level associated with the one of the plurality of paths meet one or more performance metrics;

computer code to indicate a service level violation when a flow of data communicated over the monitored path between the source and the destination fails at least one of the performance metrics; and

computer code to select an alternate path from the other of the plurality of paths between the source and the destination,

wherein the alternate path provides for a traffic service level that resolves the service level violation from the source to the destination.

27. The computer product of claim 23, further comprising computer code to route the flow of data from the monitored path between the source and the destination that fails at least one of the performance metrics path to the alternate path.